

**Montana Board of Oil and Gas Conservation
Environmental Assessment**

Operator: Denbury Onshore, LLC

Well Name/Number: 0506 OW

Location: SE NW Section 5 T9S R54E

County: Powder River, **MT;** **Field (or Wildcat)** Bell Creek

Air Quality

(possible concerns)

Long drilling time: No, 5 to 10 days drilling time.

Unusually deep drilling (high horsepower rig): No, single or double drilling rig, to drill to 4750' TD.

Possible H₂S gas production: None anticipated.

In/near Class I air quality area: No Class I air quality area.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☐ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: No special concerns – using a single or double derrick drilling rig to drill to 4750' TD.

Water Quality

(possible concerns)

Salt/oil based mud: No, freshwater and freshwater mud system.

High water table: No high water table anticipated.

Surface drainage leads to live water: No, closest drainage is an unnamed ephemeral tributary drainage to Wright Creek also an ephemeral drainage, about 3/8 of a mile to the east northeast from this location.

Water well contamination: None, closest water wells are about 3/4 of a mile to the southeast and about 3/4 of a mile to the northwest from this location. Depth of these wells are 126' and 342'. This well will drill surface hole with freshwater to 1000' and will set and cement 8 5/8" surface casing to protect groundwater and to cover the Fox Hills aquifer.

Porous/permeable soils: No, sandy clay soils.

Class I stream drainage: No Class I stream drainages in the area of review.

Mitigation:

☐ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☐ Closed mud system

☐ Off-site disposal of solids/liquids (in approved facility)

☐ Other: _____

Comments: 1000' of surface casing cemented to surface adequate to protect freshwater zones. Also, fresh water mud systems to be used.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: No, crossings anticipated.

High erosion potential: No, moderate cut, up to 11.0' and a small fill, up to 4.7', required.

Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive, unused portion of drillsite will be reclaimed.

Unusually large wellsite: No, 194'X240' location size required.

Damage to improvements: Slight, surface use is a cultivated field.d

Conflict with existing land use/values: Slight

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

- ☐ Stream Crossing Permit (other agency review)
- ☒ Reclaim unused part of wellsite if productive
- ☐ Special construction methods to enhance reclamation
- ☐ Other _____

Comments: Access will be over existing county road and existing well servicing roads. A short new access will be built off an existing well servicing road into this location. Cuttings will be buried in the lined reserve pit. Freshwater drilling fluids will be hauled to Class II disposal well or allowed to dry in the pit. Pit will be allowed to dry and backfilled with subsoils and clays. No special concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Nearest residences are about 3/8 of a mile to the east, about 1/2 of a mile to the east southeast and 3/4 of a mile to the west from this location.

Possibility of H2S: None anticipated.

Size of rig/length of drilling time: Single or double drilling rig/short 5 to 10 days drilling time.

Mitigation:

- ☒ Proper BOP equipment
- ☐ Topographic sound barriers
- ☐ H2S contingency and/or evacuation plan
- ☐ Special equipment/procedures requirements
- ☐ Other: _____

Comments: Adequate surface casing and operational BOP equipment should mitigate any problems. No concerns.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: Threatened or endangered species in Powder River County is the Black-Footed Ferret. Candidate species are the Greater Sage Grouse and the Sprague's Pipit. NH Tracker website lists two (2) species of concern. They are as follows: Ferruginous Hawk and Snapping Turtle.

Mitigation:

- ☐ Avoidance (topographic tolerance/exception)
- ☐ Other agency review (DFWP, federal agencies, DSL)
- ☐ Screening/fencing of pits, drillsite
- ☐ Other: _____

Comments: Surface is private cultivated land. There may be species of concern that may be impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

Historical/Cultural/Paleontological

(possible concerns)
Proximity to known sites None identified

Mitigation

☐ avoidance (topographic tolerance, location exception)

☐ other agency review (SHPO, DSL, federal agencies)

☐ Other: _____

Comments: Surface use is private cultivated land. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

Social/Economic

(possible concerns)

☐ Substantial effect on tax base

☐ Create demand for new governmental services

☐ Population increase or relocation

Comments: Monitoring well in an existing oil field, Bell Creek Oil Field. No concerns

Remarks or Special Concerns for this site

Well is a 4750' Muddy Formation monitoring well in the Bell Creek Oil Field.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki

(title:) Chief Field Inspector

Date: September 30, 2011

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)

Powder River County water wells

(subject discussed)

September 30, 2011

(date)

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES

MONTANA COUNTIES, Powder River County

(subject discussed)

September 30, 2011

(date)

Montana Natural Heritage Program Website (FWP)

(Name and Agency)

Heritage State Rank= S1, S2, S3, T9S R54E

(subject discussed)

September 30, 2011

(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____